Volume 259 **CONTENTS** 25 January 1994

The structure of a supersonic turbulent boundary layer subjected to concave surface curvature. JOHN F. DONOVAN, ERIC F. SPINA and ALEXANDER J. SMITS *page* 1

Measurements of vortex pair interaction with a clean or contaminated free surface. A. HIRSA and W. W. WILLMARTH 25

Compressibility effects on the structure of supersonic mixing layers: experimental results. S. BARRE, C. QUINE and J. P. DUSSAUGE 47

Experimental study of dipolar vortices on a topographic β-plane. O. U. VELASCO FUENTES and G. J. F. VAN HEIJST 79

On the evolution of thermally driven shallow cavity flows. P. G. DANIELS and P. WANG 107

Edge waves forced by short-wave groups. HEMMING A. SCHÄFFER 125

Cavity collapse in a liquid with solid particles. N. K. BOURNE and J. E. FIELD 149

The diode-array velocimeter. WILLIAM J. DEVENPORT and EDWARD J. SMITH 167

Wall shear stress and velocity in a turbulent axisymmetric boundary layer. ANTHONY WIETRZAK and RICHARD M. LUEPTOW 191

The role of coherent structures in bubble transport by turbulent shear flows. K. J. SENE, J. C. R. HUNT and N. H. THOMAS 219

Stretched vortices – the sinews of turbulence; large-Reynolds-number asymptotics. H. K. MOFFATT, S. KIDA and K. OHKITANI 241

Thermals with background rotation and stratification. KARL R. HELFRICH 265

Small-scale structure in colliding off-axis vortex rings. G. B. SMITH and T. WEI 281

Dynamic behaviour of a non-propagating soliton under a periodically modulated oscillation. XUE-NONG CHEN and RONG-JUE WEI 291

Emergence and evolution of triangular vortices. G. F. CARNEVALE and R. C. KLOOSTERZIEL 305

Crest instabilities of gravity waves. Part 2. Matching and asymptotic analysis. MICHAEL S. LONGUET-HIGGINS, R. P. CLEAVER and M. J. H. FOX 333

On the role of the outer region in the turbulent-boundary-layer bursting process. ROY Y. MYOSE and RON F. BLACKWELDER 345

REVIEWS

Introduction to Thermal Sciences, by F. W. Schmidt, R. E. Henderson and C. H. Wolgemuth; Heat Transfer, by A. Bejan 374

Matched Field Processing for Underwater Acoustics, by A. Tolstoy 375

INDEX TO VOLUME 259 376

SCHEDULE OF INTERNATIONAL CONFERENCES ON FLUID MECHANICS 378